CLEARING THE SMOG: a rejoinder to Dr. W. Pauk, Director Reading Study Center, Cornell University

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Clearing the SMOG

I am grateful to Dr. Pauk for the opportunity to clarify a most important point about my Simple Measure Of Gobbledygook (SMOG). He states that SMOG Grading is based only on word length. In fact it also takes full account of sentence length. SMOG Grading takes less time than any other readability predictor so far devised because it involves only the counting of polysyllabic words in three ten-sentence samples. This count, however, varies with sentence length. For example, given two authors with identical frequencies of word usage, if one writes sentences twice as long as the other, the SMOG count for the first author will obviously be twice as great as the other's.

In view of Dr. Pauk's mistaken belief that SMOG Grading ignores sentence length, I wonder whether his students made a similar error. He states that they "applied all three formulas to the same sample passages from 20 different articles". This can easily be done for the Fry and Dale-Chall systems, which require three and "several" 100-word samples respectively. But SMOG Grading demands samples totalling 30 sentences, usually involving the examination of some 600 words. If the students followed my instructions by taking three samples each of ten sentences, and later applied the other two systems to those entire samples, then their comparisons are valid. If they simply counted polysyllables within 100-word samples, the alleged SMOG grades are meaningless.

It is not surprising that Fry's system produces results similar to those of the Dale-Chall formula. Fry's grade-level chart was derived from a plot of the mean word and sentence lengths of books which

publishers claimed to be suitable for various grades. How did they know the books were suitable? Presumably because an author writing for a specific grade checks that he does not use more than a certain proportion of uncommon words, and that his sentences do not exceed a certain length--the very factors used in the Dale-Chall formula.

Dr. Pauk's students were "favorably impressed" by the correspondence between the Fry and Dale-Chall grade level predictions, but "surprised" by the "variance" of the SMOG grades. Their emotions might have been less strong had they computed the correlations between the three sets of predictions. Considering the relationship between the Fry and Dale-Chall systems, discussed in the previous paragraph, their correlation coefficient of $r = 0.71$ is remarkably low. The SMOG grades correlate 0.63 and 0.62 respectively with the Dale-Chall and Fry predictions.

One student prefers "the accuracy, reliability, and the feeling of confidence that I get when using the Dale-Chall formula". A feeling of confidence is unfortunately no substitute for empirical investigation, which might well show that SMOG grades predict actual comprehension more accurately than do Dale-Chall grades. As for reliability, Fry's chart predicts that a book is "suitable" for a certain grade--but how suitable? The Dale-Chall formula predicts that it can be "read with understanding" at a certain grade--but how much understanding? Compare these vague concepts with that of a SMOG grade which claims to be the one at which the book can be understood completely.